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ABSTRACT

Project "Freestyle" involved the development of prototypical television and print materials intended to combat sex-role stereotyping in career-related attitudes of nine to twelve-year-old children. In the first 16 months of the project an assessment was made of the reactions to three pilot shows among students, teachers, administrators, and parents at four test sites. This paper describes the sample, research design, procedures, and instruments used to obtain information about student characteristics and reactions to the materials, teacher ratings of their own and perceived student attitudes toward the materials, and administrators' and parents' reactions. The paper then outlines a number of analysis strategies used in gathering and processing the data. Among the topics discussed are the decision to use keypunching, the preparation phase involving a series of "dummy" data computer runs, and statistical examination of the data. The analysis strategies were aimed at assessing students' liking and comprehension of the three different pilots, the effects of combining print materials with television materials, students' comprehension of the program objectives as presented in different formats, and preferences of teachers, administrators, and parents among the pilot programs. (GW)

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NATIONAL SITES EVALUATION DESIGN

by

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In the first 16 months of the project the aim was the development of prototype television materials a School Guide which would suggest classroom activities to complement the materials a Home Guide having a similar purpose and a Comic Book which would reinforce the series objectives through an alternative medium popular with children in this age range.

The emphasis was still upon formative research; hence there was interest in obtaining a variety of responses to the materials in addition to comprehension of the basic objectives. For instance we wanted to determine students likability of the materials and also their comprehension of the factual content which was used as a vehicle to communicate the specific objectives. Also, there was a concern with gathering data which would reflect upon the possible utilization of the series and information which might be used to increase potential for utilization. However, there was no attempt in the present study to assess attitudinal change as a consequence of exposure to the materials since such change had always been envisioned as a cumulative effect of seeing the entire series rather than an individual television segment or nonbroadcast activity.

The Sample

The sample consisted of 1639 students, 60 teachers, and 11 administrators plus 83 parents at four test sites (Patterson, New Jersey; Lexington, Kentucky; Lincoln, Nebraska; Austin and Lockhart, Texas). Students were comprised of five intact classrooms at each of the three schools within each site. Classrooms were chosen to represent variations in sex, grade level, and ethnicity as well as urban-rural and socio-economic contrasts. Mexican-American Spanish-speaking students (Texas) and Puerto Rican-American Spanish-speaking students (New Jersey) were included in the sample. (Classrooms were not randomly selected, but chosen as a sample of hypothetical population variations based on these demographic characteristics). All students who saw at least one fifteen-minute pilot segment were included in the sample.

Research Design

Evaluation was conducted in a quasi-experimental design, with two treatment conditions: 1) full treatment which included the television pilots plus nonbroadcast materials and 2) partial treatment which included only the television pilots.

The full treatment group received the School Guide and the Comic Book for classroom use, a Parent Guide to send

home with students and a two and one-half hour orientation workshop for teachers. Principals of participating schools received a one hour workshop on the same day as the teachers. The workshops were designed and conducted by a team of consultants from the Office of the Los Angeles County Superintendent of Schools.

Teachers in the partial treatment group were not barred from classroom activities related to the pilots. Rather, they were told that they could engage in such activities if they wished but mainly to do what they would consider normal procedure for their classroom. They did not, however, have access to the School Guide.

Consultants were hired at each site to supervise the data gathering activities and to insure a steady and systematic flow of data back to the Formative Evaluation and Research team. These consultants were all experienced individuals who had previously worked with school systems in varying capacities.

Materials

Four sets of instruments were developed for use in the pilot formative evaluation, one set each for students, teachers, administrators, and parents.

Six questionnaires were used to obtain four broad types of student information: 1) reactions to the television

pilots (one questionnaire per pilot), 2) personality and activity ratings for audience segmentation purposes, 3) reactions to the comic book (full treatment subjects only) 4) opinion, media use, audience profile items, and preference from among the three pilots. Each instrument for segment testing had items drawn from a previously developed pool on the basis of statistical reliability from pre-test results. As a little aside here, we were concerned with the issue of identifying students across five or six questionnaires, since we would be making comparisons of data across three pilots. Rather than relying on students or teachers to make correct assignments from day to day we both pre-numbered and color-coded our sets of student questionnaires and inserted them in folders which the teachers distributed then collected for each test period. The preparations worked since we did not lose a single student.

Three instruments were developed to gather information from teachers. A post-viewing survey contained questions regarding utilization of the three pilots, teacher ratings of perceived student attitudes toward the show, as well as teacher ratings of their own attitudes toward the objectives of the series. Full treatment teachers also completed questionnaires regarding their perceptions of the teacher

POPULATION	INSTRUMENTS	DATA COLLECTION POINTS	LENGTH	CONTENT
Students	Form 4	Prior to segment viewing	10 min.	(Teacher-administered questionnaires) Psychographic Instrument
	Form 1 Form 2 Form 3	Following each 15-minute segment	10 min.	Likeability, comprehension, opinion items
	Form 5	Following comic book	10 min.	
	Form 6	Following all pilot activities	5 min.	Comprehensive follow-up items: opinion, media use, audience profile items
Teachers				
	Form 8	Following all pilot activities	10 min.	School Guide items
	Form 7	Following all pilot activities	10 min.	Comprehensive follow-up items
Administrators	Form 9	Following all pilot activities	10 min.	Comprehensive follow-up items
Parents	Form 10	Following all pilot activities	20 min.	Home Guide items and Comprehensive follow-up items
	Parent Home Survey	Following home viewing	5 min.	Home Guide items and Comprehensive follow-up items
All of the above		Third week in October	15 min.	Field consultants will interview at least 1 teacher and 1 adminstrator from each school, student from each of the 3 grades and 1 family from each school using an open-ended format.

workshops and one-page ratings for each activity they conducted in their classrooms.

Administrators completed a single form concerning series utilization in which they were requested to rate the FREESTYLE package on its apppropriateness, acceptability to the community, and the degree to which they would recommend package use to their teachers.

Two samples of parents filled out one parent questionnaire each. Participants in parent panels formed by schools in conjunction with the consultant received the Parent Survey, Form 10. This covered aspects of the FREESTYLE series and the Home Guide. A shorter form was sent home via students for parents to complete and return.

Procedures

Inservice training was provided for full treatment teachers during the first week in October. An informal orientation to the project and the use of the evaluation materials was given by the site consultants to the partial treatment teachers.

At most sites the fifteen-minute segments were viewed on an every-other-day schedule with first and second segments of each pilot to be shown in order, but with the order of the pilots randomized. The comic books were assigned so

that half of the schools used each alternative version (Realistic or Cartoon art style). The teachers distributed the comic book after children viewed the first pilot with instructions for the children to read it at home

Analysis Strategies

My purpose is not to present a cookbook of statistical analysis, but rather to give you an idea of how we coped with a tremendous amount of data and a very short turnaround time.

To illustrate the magnitude of the task, our respondents resulted in four data sets with information from students teachers, administrators, and parents. For the students alone, six questionnaires meant 9834 cards and about 155,000 data points. We began testing in October of last year, and the last set of questionnaires was due around the first week of November. This gave us only about three weeks to sort, check, punch, and analyze the results and to write our report before we presented the data on November 28.

In addition to our large data set and our time restraints, we had another kind of impetus to perform fast turnaround of the data. The production staff at KCET had a schedule to meet and we had an obligation to deliver results

to them as soon as possible before they made the crucial decisions for the final series. They could not wait for six months while we performed endless data checks and did analyses ad infinitum.

Clearly, we needed a strategy. What would be most helpful to us when the locust-like clouds of questionnaires from the Midwest and elsewhere began to drop on us via air freight?

The answer was clear. Pre-planning would serve the task. We did everything possible before the questionnaires were even sent to the sites. After the first shipment (the first wave of data) came back to us, we even filled in our tables and wrote our report beforehand. This is how it worked.

Several months before the pilots were viewed we began our preparations. I will deal primarily here with the student sample as it presented the greatest logistic and processing challenges.

We began even before the questionnaire drafts were available. One decision that had to be made at this point was the method to be used in gathering and processing the data. We considered an optical scanning approach but decided that in terms of form restrictions error-rate and

cost having questionnaires keypunched would be the more efficient method.

Once we decided to use keypunching, we had to determine what a tolerable error rate might be. This was necessary for two reasons. One, because with fast data turnaround we could not realistically expect to check every data point with its questionnaire counterpart. Two, an agreement with the keypunch company regarding quality prior to delivery of the material insures a quality guarantee.

We determined that we would feel secure with a .5 per cent error rate. We would check punched cards in two ways to assure ourselves that this had not been exceeded. First, a list would be made of all the punched cards so we could check every tenth one point by point. Second, we would develop Fortran programs to search for punches lying outside the valid range of punches and to search for duplicate cards (these occur occasionally when cards are verified).

Once the questionnaire drafts were ready, we could begin to write the Fortran programs just mentioned as well as the programs that we would use to analyze the data.

An integral component of this preparation phase involved a series of "dummy" data computer runs for the

child sample in which keypunch quality, our process, and our programs were checked. Data were created which approximated the responses we anticipated and represented the sample demographically. We knew precisely what we put into the system so we knew also precisely what we should get out.

We also created dummy report drafts which included tables ready to be filled in with data and as much of the report as we could draft at that time (one example is the Methods section). When the questionnaires were sent out, we were ready. Our computer programs and tables were waiting.

As soon as the data began to arrive from the national sites, they were sent to be keypunched after being first counted and checked. We also coded the open-ended responses according to a pre-determined system.

The data was analyzed as soon as it returned from the keypuncher. By the middle of October we had data from all questionnaires although it was confounded by site. Results from this first wave both surprised and pleased us, as the response patterns never changed as the amount of data increased.

Statistical examination of the data involved the total sample as well as comparisons between the subsets of sex, ethnic group, grade, and site. Grade for each child was

assigned by teacher- rather than self-report in order to increase precision. We also examined the effects of varying pilot presentation order, and although some confounding with sites existed, it appeared to make no difference in the overall results which pilot the children saw first, second, or third.

In order to answer the research questions several techniques were used. Comparison between pilots on likability, comprehension, and preference was done primarily with T-tests for nonindependent measures. Assessment of differences between versions of the comic book was performed in the same manner. We compared the success with which each pilot segment achieved its curriculum objective by plotting histograms of mean percentage of comprehension and comparing these visually with the overall mean on objective comprehension. Administrator reactions were also reported as means with no significance tests due to the very low number of administrators responding.

When we compared responses of sample subgroups we used independent group T-tests. When we were interested in looking at the relationships between two or more independent measures, analysis of variance was performed through multiple regression, which freed us of the necessity for equal cell N's.

In setting our alpha level, .05 was initially used. It soon become obvious, however, that with our rather large child sample, differences were showing significance which would not allow us to present the results meaningfully Therefore, we raised the alpha level to .01.

The entire analysis strategy was aimed at answering four primary research questions. These were:

1) Television format

What are the relative contrasts in students likability and comprehension of, and preference for, the three different pilots?

2) Nonbroadcast materials

What are the effects of combining nonbroadcast materials with the television materials? What are the differences in the two art forms of the Comic Book?

3) Comprehension of Curriculum Objectives

What is the relative comprehension of the different objectives as presented in different formats?

4) Utilization

To what degree was the series responded to favorably by teachers, administrators and parents? What were their relative preferences among the pilots?

Results to answer these questions were kept strictly secret until the day of the consortium report in order to prevent Production from jumping to conclusions on the basis of partial information. An entire day was scheduled for the report of the results and ensuing discussion. What we found is discussed in a subsequent paper.